

THE ETHICS OF PSYCHEDELIC MEDICINE: A CASE FOR THE RECLASSIFICATION OF PSILOCYBIN FOR THERAPEUTIC PURPOSES

By
Akansh Hans

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I. Abstract

Our current therapeutic mental health paradigms have been unable to adequately handle the mental illness crisis we are facing. We ought to ‘use every tool in our toolbox’ to help individuals heal, and the tool we should be utilizing right now is Psilocybin. Although it is classified as a Schedule I drug, meaning that it is believed to have a high potential for abuse, no accepted medical uses, and a lack of safety when used under medical supervision, Psilocybin is not addictive and does not have a high potential for abuse when used safely under medical supervision. For these reasons alone, Psilocybin deserves a reclassification for therapeutic purposes. However, many individuals oppose Psilocybin-assisted psychotherapy on ethical grounds or due to societal concerns. These concerns include: a potential change in personal identity, a potential loss of human autonomy, issues of informed consent, safety, implications of potential increased recreational use, and distributive justice and fairness issues.

Decriminalization, which is distinct from reclassification, means that individuals should not be incarcerated for the use of such plant medicines. This must happen first to stop racial and societal injustices from continuing as there are no inherently ‘good’ or ‘bad’ drugs. Rather, these substances are simply chemicals that humans have developed relationships with. As is shown in this thesis, the ethical implications and risks of psychedelic medicine can be adequately addressed and balanced, and the benefits of Psilocybin as a healing tool far outweigh the risks. For these reasons, we are scientifically and ethically obligated to reschedule Psilocybin for therapeutic purposes. While the true potential of psychedelics may lie outside the medical context, in order to

harness the healing power that is within us through the use of plant medicines, we need a medically-sound and clinically competent model of mental health care that provides public legitimacy.

Primary Reader: Dr. Jeffrey Kahn, PhD, MPH

Secondary Reader: Dr. Debra Mathews, PhD, MA

II. Preface

ψ “Psychedelics are to the study of the mind what the microscope is to biology and the telescope is to astronomy.” – *Dr. Stanislas Grof*

ψ “It’s a very salutary thing to realize that the rather dull universe in which most of us spend most of our time is not the only universe there is. I think it’s healthy that people should have this experience.” – *Aldous Huxley*

ψ “Psychedelics are illegal not because a loving government is concerned that you may jump out of a third story window. Psychedelics are illegal because they dissolve opinion structures and culturally laid down models of behaviour and information processing. They open you up to the possibility that everything you know is wrong.” – *Terrence McKenna*

ψ “We are sneaking psychedelics back into our society through research like the MDMA research that’s going on, through the research for the use of marijuana for pain, through research with the dying [with Psilocybin], and ultimately we will do the same kind of stuff about alcoholism, about prison rehabilitation, so on. I mean, it’s obvious that psychedelics, properly used, have a behavior-change psychotherapeutic value. But from my point of view, that is all underusing the vehicle. The potential of the vehicle is sacramentally to take you out of the cultural constructs which you are part of a conspiracy in maintaining. And giving you a chance to experience once again your innocence.” – *Ram Das*

Figure 1: Illustration of *Psilocybe cubensis*



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Figure 1: Illustration of *Psilocybe cubensis*, by Akansh Hans (v)

IV. Introduction

Current State of Mental Health Illnesses and Treatments

Mental health illnesses continue to skyrocket while the development of new psychiatric treatments has followed the opposite trend.¹ According to the National Institute of Mental Health, tens of millions of people are affected by mental illnesses each year, and only half of these people receive treatment; nearly one in every five adults in the United States lives with a mental illness.² Furthermore, mental health disorders are posing great economic challenges to health systems around the world, and the COVID-19 pandemic has only further exacerbated these challenges.^{3,4} There is an urgent need for a “radical change in the paradigm and practices of mental health care, including improving standards of clinician training, developing new research methods, and re-envisioning current models of mental health care delivery.”⁵

Psychedelic medicine is exactly the radical change we need to incorporate into mental health care as a therapeutic tool. Psychedelics initially showed great promise as therapeutic tools in the 1940s and 1950s, but the counterculture movement and increased recreational use in the 1960s led to their classification as Schedule I drugs with the passage of the Controlled Substances Act (CSA) in 1970.⁶ A Schedule I substance is one that is believed to have a high potential for abuse, no accepted medical uses, and a lack of safety when used under medical supervision, according to the Drug Enforcement Administration.⁷ In the span of twenty-five years, psychedelics changed from “medical marvel to public pariah,”⁸ effectively halting all scientific

experimentation and closing the door to opportunities that psychedelics offer. However, recently, there has been a revival of psychedelic medicine as a model of mental health care delivery, and we ought to embrace it to treat the mental health crisis that we are facing.

Overall Argument

Being in the midst of a global renaissance of psychedelic research⁸ further calls for the reclassification of such substances. Current treatments for mental health ailments like depression, anxiety, post-traumatic stress disorder, and addiction are not meeting current needs, seeing as mental health disorders continue to stress our nation's health care system. Therefore, we ought to, safely and under close supervision where necessary, 'use every tool in our toolbox' when it comes to combating this mental illness epidemic we are facing. Psychedelics are a very promising therapeutic tool to treat mental illnesses, especially because they only require a few high-dose sessions of treatment, rather than a lifelong dependence on medication or psychotherapy.^{8,9} It was not science that led to the passage of the CSA¹⁰, but since there have been new advances in science and technology and it has been more than fifty years since the CSA was passed, it is time to reconsider the scheduling of psychedelics. Currently, there has been quite a bit of research on Psilocybin specifically, so I will be using that as a case study of sorts. There are also some particular reasons why Psilocybin may be preferred over other psychedelics which I will touch on later. Insofar as the science is

generalizable, the same ethical argument would apply to other serotonergic psychedelic substances as well.

Psilocybin is currently a Schedule I drug, yet research has shown that Psilocybin does not have a high potential for abuse when used therapeutically, is not addictive, is rather medically useful, and has been shown to be safe when used under medical supervision in controlled settings.^{6,11–16} However, there are people who object to the use of Psilocybin, and psychedelics in general, on ethical grounds. There are two general categories of implications and risks that must be addressed: (1) issues with the Psilocybin experience itself and (2) societal issues resulting from reclassification. While these concerns are genuine, the ethical implications and risks that come with psychedelic psychotherapies can be safely balanced, and the benefits of using Psilocybin in clinical settings far outweigh the risks. Therefore, we are scientifically and ethically obligated to reschedule Psilocybin for therapeutic purposes. Human beings have been therapeutically and spiritually using these sorts of visionary substances for almost our entire existence.¹⁷ We need to create new ways of safely incorporating plant-based medicines into our lives, and that starts with the reclassification of Psilocybin.

V. Issues with the Psilocybin Experience Itself

How Does Psilocybin Work?

To begin, I will focus on issues with the Psilocybin experience itself which include: (1) a potential change in personal identity, (2) a potential loss of human

autonomy, (3) concerns regarding informed consent, and (4) safety concerns related to the potential for a 'bad trip'. In order to understand the issues that people have with the Psilocybin experience, it is important to first briefly discuss how Psilocybin is believed to function. Psilocybin is a 'classic' psychedelic substance and the primary psychoactive compound found naturally in magic mushrooms.¹⁸ Psychedelics are mind-manifesting substances; the origin of the term 'psychedelic' comes from two words: *psyche*, meaning mind, and *delis* meaning to manifest. There are many psychedelic substances other than Psilocybin, such as mescaline found in various types of cacti, dimethyltryptamine (DMT) which is the substance in ayahuasca, d-lysergic acid diethylamide (LSD), and 3,4-methylenedioxymethamphetamine (MDMA) among others. As with LSD, the other 'classic' serotonergic psychedelic, Psilocybin primarily acts on the serotonin neurotransmitter system as an agonist of serotonin 2A receptors (5-HT_{2A}R).^{19–21} Serotonin is a neurotransmitter that affects mood and emotions. Furthermore, the amygdala, which is considered the emotion center of the brain, has been seen to have decreased reactivity to negative emotional stimuli after administration of Psilocybin; it is believed that neural patterns break down as the connectivity between different parts of the brain becomes more diverse and dynamic.²² This break down of neural patterns is related to the default mode network (DMN) in our brains. The DMN is a network of neural pathways that help us function in the world:

As we mature, we learn to respond to life's stimuli in a patterned way, developing habitual pathways of communication between brain regions, particularly those of the DMN. Over time, communication becomes confined to specific pathways, meaning that our brain becomes more 'constrained' as we develop. It is these

constrained paths of communication between brain regions that quite literally come to constitute our 'default mode' of operating in the world, coloring the way we perceive reality.²³

During illnesses like depression and addiction, the DMN becomes over-engaged with negative thoughts and cravings. However, it is believed that when the DMN stops being so over-engaged, it allows people to break free from destructive neural patterns that are implicated in various mental health illnesses.²⁴ Psilocybin, and psychedelics in general, alter the DMN in profound ways that have very promising clinical applications.^{22,25,26}

According to Dr. Roland Griffiths, a leading expert on mood-altering drugs and the founder of the Johns Hopkins Center for Psychedelic and Consciousness Research, “under psychiatric conditions when there are network functions that are being mismanaged or not working very well, there’s this opportunity for global interconnectivity. And that resolves [and] perhaps [resets] some of these networks to more ‘healthy’ patterns”.^{27,28} Psilocybin in particular is more appealing to researchers than other serotonergic psychedelics like LSD because “its duration of action is about 6 hours compared with LSD’s 10-12 hours, which makes it more manageable to work with in a clinical setting; and, unlike LSD, it does not have the same strong association with the counterculture of the 1960s.”²⁴

Personal Identity

Regarding personal identity and the Psilocybin experience, a possible argument goes something like this: *I will experience a drastic change in identity as a result of this*

experience, effectively rendering myself a different person than I was before; I do not want to become a different person, especially if I am not able to stop the identity transformation partway through. This objection is indeed grounded in legitimate concerns, as many users of Psilocybin, and psychedelics in general, experience a sense of ‘ego-dissolution,’ which is related to feelings of increased unity with others and one’s surroundings.^{29–31} This can be considered a compromised sense of self, and researchers have shown that this is a key feature of the psychedelic experience.²⁹ However, it is not clear whether this experience actually makes one less oneself. I would even go as far as to argue that one may be more themselves than ever while under the influence of psychedelics. As philosophers from the University of Adelaide in Australia describe it, “‘ego dissolution’ in the psychedelic experience is a window [to see] the nature of self-awareness.”³² Discussed earlier, the DMN, while allowing us to efficiently interact with our environments, also constrains us as we grow older.²³ I posit that walls within our mind that are also part of this DMN are able to be broken down with the use of Psilocybin; we are able to grow out of the constrained box we became accustomed to living in, thereby putting ourselves more in touch with our personal identity.

Even if you do not agree that psychedelic substances have the ability to put us in touch with our true identity and still object to the identity transformation, traditional psychotherapy already induces changes in personality and identity. We currently treat personality disorders with psychotherapy, definitively inducing changes in personality.^{33,34} The use of Psilocybin is just a form of medication-assisted psychotherapy, a technique already commonly used in current practices. The stigma

and culture surrounding Psilocybin, and psychedelics in general, are hindering its acceptance as a therapeutic tool. This combination of a psychedelic drug and psychotherapy can be thought of as the induction of an experience with extremely positive long-term mental health consequences, rather than daily neurochemical corrections in the brain.¹ Rather than leading to a lifetime need for repeated administration of other drugs (SSRIs, antipsychotics, etc.) or therapy, one to two high dose sessions of Psilocybin, intertwined with psychotherapy, results in long-lasting changes.¹³⁻¹⁵ According to psychologist Duncan Blewett, psychedelics offer a superior form of therapy because they “aide man in seeing himself, his values and his behaviour in [a] new perspective; in freeing himself from disadvantageous patterns of thought and action” one is able to heal.⁸ By using this ‘companions in guilt’ argument (i.e. showing that we do not morally object to a similar practice we already engage in), Psilocybin-assisted psychotherapy should be treated as other medication-assisted psychotherapies.

However, even if people accept this ‘companions in guilt’ argument, they might still object to the intense nature of the identity transformation. They would argue that this identity transformation, while similar to that experienced during typical psychotherapy, happens very rapidly during a Psilocybin experience. There is a much more rapid change in personal identity that the individual might not have as much control over, whereas in typical therapy it is more gradual as one works through things and goes back and forth with the therapist. This is a legitimate objection because the psychedelic experience is of a much shorter duration and higher intensity than traditional psychotherapy. And yes, it may seem like a supercharged blast to the brain. However, it

must be understood that doctors are not simply giving this drug to patients and sending them on their way once they are done journeying. There are several pre-experience sessions and post-experience sessions, usually called preparatory and integrative psychotherapy, respectively.^{1,12,16,20} It is crucial to understand that this is another form of medication-assisted psychotherapy, and the main transformation occurs once you have learned how to integrate your new knowledge into your everyday life after the experience. Furthermore, not only is a change in identity already part of the goal with current mental health therapies, but this change is also one desired by the patient in order to become more aligned with their true self. It can be understood as a form of medication-assisted therapy during which a patient is able to seek and understand their true self that has been boxed out by the DMN. Psychedelic medicine is especially helpful for individuals who have been unable to heal with other traditional psychotherapeutic approaches.

Human Autonomy

Moreover, this brain blast, or restorative burst, might be very necessary for patients to help them heal. A very closely related concept to personal identity is human autonomy; when one is able to autonomously make choices, they do so in ways that align with their true identity. I argue that Psilocybin would actually boost the autonomy of individuals afflicted with mental health illnesses. We already boost autonomy for individuals affected by opioid use disorder when we prescribe them methadone. They are given a psychoactive substance that boosts their autonomy by controlling their

cravings.³⁵ When one is able to control their cravings, they regain autonomy.³⁶ Similarly, if someone presents to a hospital experiencing a manic/psychotic episode, we do not treat them as having autonomy until they are medicated. Psilocybin is just another substance that can be used as a tool to help individuals with severe mental illnesses regain their sense of autonomy; and it is an especially effective tool for developing autonomy as it need not be taken as a daily prescription medication. Sometimes when we give people exogenous chemical compounds that feel like a blast to the brain, we are actually calming down certain harmful patterns of thinking, which allows the individual to regain control of their life. I would even go so far as to argue that Psilocybin is better to help people regain autonomy than other drugs due to the ability for long-lasting effects after just a few administrations. In contrast to prevailing trends in psychopharmacological treatments that rely on long-term chemical consumption, psychedelic therapies involve short, intense treatment sessions preceded and followed by psychotherapy sessions. While other methods frequently lead to a physical and/or psychological dependence on chronic pharmacotherapy, psychedelic therapies avoid such dependence and truly help the patient in resurrecting self-control.⁸

Some may argue that due to the 'ego-dissolution' they may experience, they are losing autonomy during the brief period of the Psilocybin experience. However, I believe that the Psilocybin experience is actually an expansion of autonomy rather than a loss. If Psilocybin has the proposed effects on the DMN, then I posit that one is more autonomous during and after the Psilocybin experience. The DMN constricts one's thoughts and actions; it is our 'default' way of interacting with the world. For people with severe mental illnesses, some of their negative thought processes are so deeply

ingrained in their DMN that they aren't autonomously thinking about those actions/choices anymore. By downregulating or temporarily turning off the DMN, one is capable of expanding their autonomy by breaking away from any default modes to which they may have grown accustomed, such as depressive thoughts, addictions, etc. Psilocybin allows one to deconstruct the deeply ingrained systems of the mind, ultimately leading to freedom of the self and the ability to make truly autonomous decisions. Furthermore, the Psilocybin experience is one in which the person is looking introspectively within themselves, as their own guide. The trained professionals present are there only to help if the patient needs them as a safety net. As Dr. Matthew Johnson analogized, the patient is like the astronaut and the doctors are like ground control.³⁷ This further allows the patient to be in charge of their experience rather than having a psychotherapist or other medications control them; Psilocybin puts patients in a position to heal themselves.

Drawing upon the work of the philosopher Harry Frankfurt, I posit that Psilocybin can enable people to fulfill their second-order desires, or higher-order desires. Frankfurt describes humans as having first-order desires and second-order desires.³⁸ A first-order desire is the initial desire to perform a certain action, whereas a second-order desire is a desire about a desire.³⁸ Using the example of heroin addiction, the first-order desire of an individual who is addicted to heroin would be to fulfill their craving and seek out the drug. However, if they are seeking treatment, they do not want to be addicted. That is their second-order desire, and there is a conflict between their desires. Psilocybin allows one to take control over their first-order desires in order to truly manifest their second-order desires that are in line with the identity they choose to embrace.

Individuals are able to more autonomously live their lives as they make choices that align with their higher-order desires. These autonomy concerns can be further addressed by upholding the bioethical principle of *respect for persons*, a consideration that was taken into account in the ethical framework for psychedelic research that I will discuss in the following section. All in all, the Psilocybin experience enables patients to truly understand their personal identity and expand their autonomy in ways that they were unable to previously.

Informed Consent

Is truly informed consent even possible given the subjectivity of the experience and how little we know about these substances? Also, if someone starts having a ‘bad trip,’ they cannot withdraw consent and leave part-way through the experience. They are stuck with the consent they gave at the beginning of the experience. Moreover, with the ‘ego dissolution’ one may experience, they might want to change their consent during the experience. This is a genuine concern due to the mind-altering characteristics of Psilocybin; however, the subjectivity and unknown-ness of the experience can be balanced with enhanced informed consent. William Smith and Dominic Sisti from the Departments of Psychiatry and Medical Ethics and Health Policy, respectively, at the University of Pennsylvania Perelman School of Medicine have developed suggested disclosure information and questions for consent to Psilocybin that I believe are quite comprehensive and afford doctors the ability to obtain adequate consent. The three main components of the therapeutic process that are novel and

unexpected for patients that they posit are: shifts in values and personality, mental health risks, and therapeutic touch (ethical implications of potentially holding a patient's hand to comfort them during their experience).³⁹ The concepts that need to be fully disclosed as part of the enhanced consent process include: information about the experience, information about potential long-term changes, information about the mechanism, therapeutic touch, and questions for subjects' reflection.³⁹ If all of these topics are discussed with the patient and the patient understands that this is a highly subjective experience and, at the end of the day, there may be things that happen that we did not initially know would happen, this is sufficient informed consent for one to decide to undergo this treatment.

The Multidisciplinary Association for Psychedelic Studies (MAPS), a non-profit leader in psychedelic research since 1986, has been at the forefront of many breakthroughs and debates when it comes to psychedelic medicine. MAPS, along with the MAPS Public Benefit Corporation (MPBC), have developed an ethical framework for psychedelic therapy research which I believe is acceptable. They have posited five principles and their applications to psychedelic research: (1) *respect for persons*, which calls for ensuring voluntariness, capacity, and informed consent, and conducting harm/benefit analyses that are justifiable for individual participants or their populations; (2) *radical transparency*, which calls for publishing research protocols, drug sourcing information, outcomes, ancillary data, and finances; (3) *collaboration and open science*, which calls for working in partnership with other research organizations, whether nonprofit or for-profit, to advance the science of psychedelics; (4) *justice and fairness*, which calls for committing to fair distribution of research benefits and burdens, diversity

in recruitment of participants, and benefit sharing and compassionate use; and (5) *democratic deliberation*, which calls for maintaining open dialogue with communities involved in research and providing regular educational programming for participants, advocates, and the broader community.⁴⁰ As long as these principles are emphasized along with the enhanced informed consent, the Psilocybin experience is an ethically permissible treatment for severe mental health illnesses.

Safety Concerns & 'Bad Trips'

Psilocybin, and other psychedelics as well, is most well-known for its psychological effects; it alters mood and perception in profound ways. "The feature that distinguishes the psychedelic agents from other classes of drug is their capacity reliably to induce states of altered perception, thought, and feeling that are not experienced otherwise except in dreams or at times of religious exaltation."⁶ Yet, when it comes to any chemical substance, the physiological effects of the substance must be analyzed to ensure that consuming the substance is safe for the body. For decades, psychedelics have been portrayed as very dangerous drugs.⁶ However, Psilocybin is considered extremely physiologically safe, non-addictive, and has been used in therapeutic settings.^{6,11–16,41} A study at the Johns Hopkins University School of Medicine did find that Psilocybin dose-dependently caused delayed, transient headaches in healthy volunteers; however, Johnson et al. were clear to note that the headaches lasted no more than a day and that this adverse effect is to be expected with use, whether

medical or otherwise. As these headaches were neither severe nor disabling, they “should not present a barrier to future Psilocybin research.”⁴²

Psychologically speaking, psychedelics put an individual in a vulnerable mental state. A psychedelic experience can be thought to be a non-specific amplifier of psychological content, both positive and negative. Psilocybin has the ability to put one in touch with trauma that may have been hidden deep within one’s mind, and which may be the root cause of their current mental health ailment. There is a risk of someone becoming re-traumatized as they confront their trauma, as well as experiencing other forms of psychological distress. This is what one might refer to when describing a ‘bad trip.’ However, the term ‘bad trip’ is actually quite misleading as this ‘bad’ experience can lead to positive outcomes.⁴³ According to a survey study of positive and negative consequences of the psychedelic experience after ingesting Psilocybin mushrooms, 84% of respondents reported benefiting from the so-called ‘bad trip.’⁴⁴ The researchers found that the “incidence of risky behavior or enduring psychological distress is extremely low when Psilocybin is given in laboratory studies to screened, prepared, and supported [patients].”⁴⁴ These realizations have caused a shift in the descriptive terminology; these experiences are now being called ‘challenging experiences,’ which acknowledges that, “when they’re handled well, as in the context of a clinical setting, they can lead to positive outcomes.”⁴¹ Furthermore, it has been hypothesized that the concept of a ‘bad trip’ was strategically used in government propaganda to promote public support of a prohibition of psychedelics.⁴⁵ This conceptualization also justified interventions and regulations to remove these substances from the legal and medical landscape.⁴⁵ As I think of trauma as being information that our minds are unable to

process, Psilocybin can help individuals process this trauma in the vicinity of professionals. Rather than alleviating symptoms of a mental health illness, Psilocybin helps individuals confront the root cause and truly heal themselves.

The risks that these challenging experiences may bring about are minimized if one is given the proper space in which to heal. This is where the concept of 'set and setting' is imperative to the safe use of Psilocybin for therapeutic purposes. The term, set and setting, that was initially coined by Harvard professor Timothy Leary, has now come to refer to the "psychological, social, and cultural parameters which shape the response to psychedelic drugs."⁴⁶ The set refers more to the psychological location, or mindset, that an individual has when going into an experience, and the setting refers more to the physical location that they are in. A safe set and setting must be emphasized in order to minimize any risks. Appropriate procedures for using psychedelics in clinical settings to minimize risk, proposed by Johnson et al., include:

(1) the presence of two "monitors" with some medical knowledge, knowledge of [altered states of consciousness], and a degree of clinical sensitivity; (2) a physical environment that is safe, aesthetically pleasing, and comfortable; (3) careful subject preparation, including several meetings to establish rapport and trust with the monitors; (4) a detailed consent form and explanations of the study procedures, detailed discussions about the range of potential experiences, and a time of onset and duration of the effects; and (5) an available physician in the event of an untoward medical reaction.^{6,41}

People with certain underlying mental health conditions may have the additional risk of entering psychotic states difficult to reemerge from; these contraindications should be

screened for in potential patients.⁴¹ There is a potential for long-term psychoses, such as hallucinogen persisting perception disorder, but this is very rare and the volunteer selection section of Johnson et al.'s guidelines are a key factor in minimizing risk.⁴¹

Psychedelics are a very promising treatment for a variety of illnesses; however, the experience is quite intense and potentially risky – there is no doubting that. Not everyone plagued by a mental health illness should immediately look to Psilocybin and other psychedelics as treatment. However, in a controlled setting with properly trained and prepared monitors present, risks can be minimized so that this medicine can be used to battle the mental health crisis we are currently facing. There is always a risk versus reward analysis with any medication or treatment, and for Psilocybin, safety concerns are adequately addressed when it is used in clinical settings under supervision.

VI. Societal Issues Resulting from Reclassification of Psilocybin

Decriminalization

When it comes to drugs, I assert that there is no such thing as a 'good' or 'bad' drug. The drugs themselves are not inherently 'good' or 'bad' substances; they are simply chemicals that we, as humans, have developed relationships with. It is the intention that people have going into their use of a drug, and the circumstances surrounding their drug use that dictate whether or not their outcome will tend to be 'good' or 'bad.' Societally, classifying certain drugs as 'good' versus 'bad' has allowed

for the stigmatization of certain groups of people, which is morally impermissible. Why do we as a society think that certain chemicals are better or worse than others? We are at the precipice of a social paradigm shift in which we can use plant medicines, such as Psilocybin, in a more culturally accepted way in order to help people heal. I believe we need some level of medicalization to validate these medicines and begin creating access, but we need to decriminalize first to not further the injustices that have been occurring since the illegalization of these plant medicines in 1970.

Decriminalization needs to happen first to destigmatize Psilocybin and stop the criminalization of people for certain substances like cannabis and psychedelics and not others like alcohol and nicotine. Unfortunately, decriminalization is a whole other issue in and of itself, and truly requires more space than I am able to give it here. However, briefly, I will be drawing upon the works of Dustin Marlan and Mason Marks who have written about psychedelic decriminalization and social and legal issues, respectively. Dustin Marlan's piece titled *Beyond Cannabis: Psychedelic Decriminalization and Social Justice* makes some convincing arguments for decriminalizing psychedelics on the basis of medical value, religious freedom, cognitive liberty, and identity politics.¹⁰ Marlan goes on to propose a way in which decriminalization may be more plausible, which I find quite interesting:

...given the neurological changes in the brain caused by use of psychedelics, psychedelic law reform can also be conceptualized as a matter of neurodiversity – a recent claim to equality holding that neurological variations should be recognized and respected along with other human differences. [Marlan argues] that situating psychedelic law reform under the neurodiversity paradigm, and thus

as a matter of social justice, could lessen the stigma surrounding psychedelics and generate additional popular support for future decriminalization efforts.¹⁰

Marlan also discusses the work of Mason Marks, who further makes a convincing case for decriminalization. Marks, in his “comprehensive review of the social and legal obstacles to developing psychedelic medicines” explains how with “subtle modifications to state and federal drug law, psychedelics could be thoroughly studied and made available to patients under carefully controlled conditions.”⁴⁷ Given how promising Psilocybin has proven to be as a treatment for various ailments of the mind^{6,11–16}, it is crucial to move past the 1960s-era stigma surrounding psychedelics.^{41,47} Despite the promising results,

...investigations into [the] therapeutic effects [of psychedelics] are often too slow, expensive, and infrequent. Legitimate medical research is hindered by the Schedule I status of [psychedelics]. Updating current regulations could reduce barriers to research and open up new alternatives to millions of patients who are nonresponsive to traditional therapies.⁴⁷

Decriminalization combats the issue of the unfair incarceration of individuals who engage in drug use. With reclassification, people will be making money from these substances in a legal way, and the medical research will be more permissible. Therefore, individuals who have been jailed for the use of these substances are owed special consideration, as I will discuss later. The criminalization of these medicines creates huge inequities as certain people have been persecuted for using these substances whereas there are others who have access to these substances in clinical settings without any form of criminalization.

Implications of Increased 'Recreational' Use

The reclassification of any substance necessitates the consideration of social implications – especially when considering Psilocybin, a naturally found compound with a very complex history. If Psilocybin is reclassified for therapeutic purposes, we, as a society, will need to rethink how we view these naturally occurring psychedelic substances and how we view those who choose to use these substances outside of a therapeutic context. As with any drug, there will be non-clinical, or 'recreational' / 'underground,' use of the substance. For that reason, risk reduction education is absolutely crucial, as I will discuss shortly. Before I delve into the implications of increased 'recreational' use, I will briefly discuss a gripe I have with the term 'recreational' when it comes to Psilocybin use. It is the same issue that Robert Jesse brought up while Michael Pollan interviewed Jesse for his book, *How to Change Your Mind*. Jesse explained “[m]aybe we need to reexamine that term. Typically, it is used to trivialize an experience.”⁴⁸ I hope that by this point in my thesis, it is clear that there is nothing trivial about Psilocybin, and psychedelics in general. These plant medicines lead to deep, meaningful experiences and should be treated with respect and reverence. However, due to lack of a better term and general knowledge of this term within the substance use space, I will be utilizing it.

A societal implication of reclassification is the potential for increased recreational use. It is likely the case that if the federal government reclassifies Psilocybin and officially states that it does have a medical use, there will be an increased use of Psilocybin, and maybe even other psychedelics as well, in the general population for

self-medicating purposes. While this is not necessarily a ‘bad’ thing in my opinion, there needs to be proper education and risk reduction. While most know about ‘harm reduction,’ I prefer to call it ‘risk reduction’ as I believe the latter term has a much less negative connotation and it more accurately acknowledges that there are risks when it comes to using Psilocybin without stigmatization of those who choose to use. There will always be underground use of substances. And with Psilocybin, a substance that has great potential with genuine risks, society needs to be made aware of the risks and educated so that people know what they are getting into. This shift in societal thinking is imperative to ensure that people remain safe, and risks are minimized in order to help people fulfill the potential of their psychedelic experience to heal lasting trauma and other mental health woes.

There are already some effective risk reduction platforms and outlets, but as Psilocybin becomes increasingly mainstream, more attention to risk reduction and education will be necessary. As more people explore psychedelics outside of supervised, medical contexts, with many of those people having a psychedelic experience for the first time, risk reduction is essential. The Zendo Project is an example of a ‘risk reduction’ (they use the term ‘harm reduction’) platform which “provides professional comprehensive harm reduction education and support for communities to help inform and transform difficult psychedelic experiences into opportunities for learning and growth.”⁴⁹ They “envision a world where communities are educated, resourced, and engaged in applying harm reduction principles to support individuals exploring psychedelic states; recognizing that challenging experiences can be opportunities for self-exploration and healing” and promote the psychedelic peer

support principles of (1) safe space; (2) talk through, not down; (3) sitting, not guiding; and (4) difficult is not bad.⁴⁹ A group of researchers also recently, in March 2021, published a transtheoretical model for Psychedelic Harm Reduction and Integration (PHRI) in clinical practice.⁵⁰ In the model, Gorman et al. combine elements from harm reduction psychotherapy and psychedelic-assisted psychotherapy. The PHRI model “represents a shift away from assessment limited to untoward outcomes of psychedelic use and abstinence-based addiction treatment paradigms and toward a stance of compassionate, destigmatizing acceptance of patients’ choices.”⁵⁰ Another example of a risk reduction program is the Fireside Project, a non-profit psychedelic peer support line that provides free and confidential peer support to anyone either currently experiencing a crisis during a psychedelic journey or anyone who needs support in processing a past psychedelic journey.⁵¹ Such peer risk reduction practices must be continued and expanded so that the education and support is accessible to all.

Distributive Justice and Fairness Issues

When it comes to any sort of therapeutic medicine, distributive justice issues must be addressed. This is especially the case with Psilocybin, given the nature of the transformative experience. There need to be specific sets and settings for these therapies to take place in controlled therapeutic environments, and the Psilocybin experience lasts around six hours. So, there needs to be dedicated staffing and locations, which means these therapies may end up being costly. The costs of these treatments and locations of clinics may limit access, which must be addressed in order

to offer equitable access. I believe that eventually, multiple avenues of accessibility might be needed to most effectively harness the powers of this plant medicine and make it accessible to everyone who truly needs it.

As Psilocybin becomes more mainstream, fairness issues also arise. This substance was originally found naturally in certain species of mushrooms and has been used by various indigenous peoples for cultural, religious, and spiritual practices for centuries. As the first users of these plant medicines, something is definitely owed to these indigenous populations and they must have a seat at the table in the psychedelic space. Furthermore, people of color have been constantly excluded from psychedelic research and the benefits it provides.⁵² It is essential to ensure that people of color and descendants of indigenous cultures are included in the research and practice of psychedelic therapy.

The guidelines proposed by Johnson et al. in 2008, mentioned earlier, do indeed incorporate some of the important teachings from indigenous cultures to remain respectful of these populations as well as to not exploit their sacraments.⁴¹ They discuss the need for “structured use (expressed as ritual in indigenous use), restrictions on use including the need for guidance, and appreciation of [psychedelics’] powerful psychological effects (expressed as reverence in indigenous use).”⁴¹ There needs to be a shift from a sense of ‘ownership’ to ‘stewardship’ when it comes to plant medicines and the knowledge that experienced individuals are sharing. Companies should not be filing patents on plant medicines as no one truly owns them; individuals are forwarding their knowledge about the medicine through history. To that extent, we must tread carefully with big pharmaceutical corporations entering this space.

As for-profit companies begin to consider the business of psychedelic medicine, their intentions need to be examined. At the end of the day, they are entering this medicinal space to profit from the increased use of psychedelics, which may not be very conducive to stewarding a plant medicine as potent as Psilocybin. When we look at the history of for-profit companies in the medicinal space, the story of the opioid epidemic and the societal exploitation should serve as a cautionary tale.⁵³ We cannot let the same thing happen with psychedelics. It is also obvious that the supply-demand relationship is skewed when there are economic advantages to those who create and control the supply. These benefits lead those who control the supply to develop quite a strong interest in fostering and increasing the demand, which is ethically questionable. While I cannot delve into this relationship in depth as it is deserving of a thesis in and of itself, there needs to be special safeguards and protections in place to prevent the marketization of psychedelics to the point where people are exploiting others and ‘selling’ medicine for their own personal gain. This would be in conflict with the commitment to indigenous cultures that have shared the knowledge of this plant medicine with the Western medicine community. While this is a major downfall of big pharmaceutical companies, they are going to continue to exist nonetheless, and the business model does have some positive aspects. I posit that there needs to be an integration of the positive aspects of the business model and community-based, non-profit organizations. The future of medicine should not look like the past with what happened to start the opioid epidemic. For-profit companies are trying to make the most profit rather than help people heal; this dissonance between the intention of the ‘healer’ and the intention of the person looking to be healed is dangerous and a potential

breeding ground for exploitation. We need to tap into the various sources of knowledge that different populations have (e.g., people who have been incarcerated for psychedelic use and indigenous communities) to create a collaborative and supportive network of healers and optimize access for the people who need these medicines.

Finally, lessons learned from another plant medicine, cannabis, can be applied to guide the entrance of psychedelic medicine into society. As Marks briefly mentioned, “[r]ecent state level [cannabis] reform efforts could serve as a roadmap for amending the laws governing psychedelics. Ultimately, creative solutions that promote collaboration between state and federal government may be most likely to succeed.”⁴⁷ We need to be wary of the capitalistic commercialization that leads to hyper-competitive markets. However, we must be cautious with following the cannabis model precisely because of the different experience that psychedelics provide. Rather than sending people home with their medications, as with cannabis, psychedelic therapy takes place in a specific setting for a certain amount of time.⁵⁴ Psychedelics have the opportunity to become a new model for the rest of the pharmaceutical world, as I will conclude with, and we ought to embrace the social changes occurring while minimizing risks and being equitable.

VII. Conclusions

Psilocybin as a Therapeutic Tool

As I have demonstrated, Psilocybin is an extremely promising treatment option, especially for people who have been unresponsive to current mental health therapies. Our current mental health paradigms have been unable to adequately address mental health illnesses as they continue to trouble society. We need ‘every tool in our toolbox,’ and Psilocybin is the therapeutic tool we need right now. Scientifically speaking, Psilocybin ought to be reclassified as it does not have a high potential for abuse, it is not addictive, and it is medically useful in controlled settings. Yet, people object on the grounds that there remain ethical and societal issues associated with reclassification.

I have illustrated the safeguards that are in place and should be in place in order to adequately address the ethical and societal issues of integrating Psilocybin into standard therapeutic practices. By downregulating one’s DMN, Psilocybin enables one to break free of the constraints of their mental health illness to heal the root cause. Psilocybin helps one interact with their trauma in a safe, controlled setting with experienced monitors to help overcome their trauma rather than just masking the symptoms of it. I argue that Psilocybin experiences actually put one more in touch with their personal identity and expand one’s autonomy rather than inhibit it; Psilocybin puts patients in a position to heal themselves. With the proper safety measures taken, concerns of informed consent and the potential risks can be minimized. The risks, when

minimized, are far outweighed by the benefits, especially during a time of societal mental health crisis.

Societal Shift in Perception of Psychedelics

We need to change our perception of drugs in general, but especially plant medicines such as Psilocybin. As asserted, drugs are not inherently ‘good’ or ‘bad’ – they are just chemicals humans use, whose outcomes are dependent on intent and circumstance. The war on drugs is extremely outdated and treating drug problems as crimes rather than illnesses is unethical and unnecessarily stigmatizing. The decriminalization model has been used quite successfully in Portugal as it has shown you can reduce harmful drug intake by decriminalizing drugs.^{55–57} Portugal decriminalized *all* drugs beginning July 1, 2001, and:

[b]y freeing its citizens from the fear of prosecution and imprisonment for drug usage...has dramatically improved its ability to encourage drug addicts to avail themselves of treatment. The resources that were previously devoted to prosecuting and imprisoning drug addicts are now available to provide treatment programs to addicts. Those developments, along with Portugal’s shift to a harm-reduction approach, have dramatically improved drug-related social ills, including drug-caused mortalities and drug-related disease transmission.⁵⁸

The success of Portugal even influenced Oregon to become the first state to decriminalize all drugs with the passing of Measure 110 in November of 2020.^{54,59}

Decriminalization is likely to be cheaper, reduce other types of crime, prioritize health

and safety over punishment, and reduce the stigma associated with drug use.⁶⁰ Furthermore, a study conducted by researchers at the University of Alabama at Birmingham suggests that psychedelic therapies could actually reduce criminal behavior.⁶¹ A recent study published in *The New England Journal of Medicine*, the first of its kind, compared Psilocybin to Escitalopram for depression: researchers showed that Psilocybin and Escitalopram were just as effective at treating the primary outcomes of depression, and that “[s]econdary outcomes generally favored Psilocybin over Escitalopram, but the analyses of these outcomes lacked correction for multiple comparisons” and therefore further studies are needed.⁶² A societal shift is crucial for the advancement of plant medicines for healing purposes.

Plant Medicines & the Future

“During the 1950s, psychedelic psychiatry promised consciousness-raising, identity-changing therapy within a medically sanctioned and scientifically rigorous environment.”⁷ As we now have even more advanced technological and scientific practices and understandings, we need to combine our concept of Western medicine with integrative, natural, plant medicines. Psilocybin provides the opportunity for us to see ourselves as one organism, which may be helpful when it comes to the accessibility of plant medicines. Maybe we should create a new model of having a shared resource pool of natural plant medicines that is aimed at environmental and traditional conservation. Our biological and scientific advances have allowed us to create Psilocybin synthetically which is more sustainable for the natural resources. Any

proceeds need to be redistributed to the conservation of plants, cultures, and the aid of those who have been negatively impacted by the criminalization of psychedelics. This will allow us to kickstart a regenerative economy – one that is sustainable for future generations and is furthered through collaboration and equity – through the use of plant medicines which could lead to more access and less exploitation. While these substances may have much more potential beyond healing in therapeutic contexts, in order for the general public to begin to understand that, psychedelics need to be first introduced with a scientific- and clinical-based model of mental health medicine.

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IX. Curriculum Vitae

Akansh Hans

akansh.hans@gmail.com | www.linkedin.com/in/akanshhans/

EDUCATION

- WEST VIRGINIA SCHOOL OF OSTEOPATHIC MEDICINE – LEWISBURG, WV** **JUL. 2021 – MAY 2025**
- Future Medical Student
- JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH – BALTIMORE, MD** **ANTICIPATED MAY 2021**
- Master of Bioethics – Berman Institute of Bioethics
 - Thesis – The Ethics of Psychedelic Medicine: A Case for the Reclassification of Psilocybin for Therapeutic Purposes
- UNIVERSITY OF ROCHESTER – ROCHESTER, NY** **AUG 2016 – MAY 2020**
- Bachelor of Science, Neuroscience
 - Minors – Bioethics, Clinical Psychology

CLINICAL EXPOSURE

- MEDIC ASST. (EMT), RIVER CAMPUS MEDICAL EMERGENCY RESPONSE TEAM** **OCT. 2016 – MAY 2020**
- RC MERT is a student based, volunteer EMT service on the UofR River campus. Provided treatment to students, faculty, and guests. Assisted the Crew Chief in patient care and various medical interventions.
 - Volunteered (25 hours/month) as a certified EMT-B in the state of New York.
- EMERGENCY MEDICAL TECHNICIAN, AMERICAN MEDICAL RESPONSE, ROCHESTER** **JUN. 2017 – JAN. 2019**
- Certified EMT-B in the state of New York. Dedicated member of emergency response teams delivering fast, quality patient care during medical emergencies, accidents, natural disasters, and crisis scenarios.
 - Worked part-time (30-40 hours/month) as a passionate medical services provider.
- EMERGENCY MEDICAL TECHNICIAN, DUTCH WONDERLAND AMUSEMENT PARK** **JUN. 2018 – AUG. 2018**
- Certified EMT-B in the state of Pennsylvania. Provided medical care treatment and first aid to amusement park guests and employees and assisted with dispatch to ensure proper park operation.
 - Worked full-time (40 hours/week) for the duration of the summer.
- SHADOW, CARDIAC CONSULTANTS, LANCASTER GENERAL HOSPITAL** **JUN. 2015 – AUG. 2016**
- Shadowed various physicians (150+ hours) with exposure to echocardiograms, transesophageal echos, heart catheterizations, open-heart surgeries, stent placements, and stress tests.
- VOLUNTEER, HEART OF LANCASTER REGIONAL MEDICAL CENTER** **JAN. 2014 – AUG. 2016**
- Volunteered (450+ hours) in the Emergency Department and helped with collection of lab specimens to analyze, general patient transport, and basic patient care.

RESEARCH AND WORK EXPERIENCE

- RESEARCH ASST., JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH** **SEPT. 2020 – PRESENT**
- Key contributor to the eSchool+ Initiative: an interdisciplinary Johns Hopkins initiative working on ethics and equity issues related to K-12 school responses during the COVID-19 pandemic.
 - Responsible for maintaining the school and national organization policy reopening tracker and analyzing state and school district reopening plans for inclusion of 12 key operational and equity categories; as well as for analyzing state vaccine plans and developing and maintaining the teacher vaccine allocation tracker.
- RESEARCH ASST., JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH** **AUG. 2020 – NOV. 2020**
- Volunteer research assistant contributing to the COVID-19, Maternal and Child Health and Nutrition Repository compiled by the Center for Humanitarian Health within the Bloomberg School of Public Health; working under visiting CDC health scientist Mija-tesse Ververs.
 - The repository is used by hundreds of clinicians, public health professionals, and researchers in over 100 countries and provides a site for updates on scientific literature on maternal and child health and nutrition.

RESIDENTIAL ADVISOR, UNIVERSITY OF ROCHESTER **FEB. 2018 – MAY 2020**

- Responsible for providing educational programs and paraprofessional advising for 50 undergraduate students while creating a positive living environment to promote the construction of social networks.
- Assessed and resolved issues pertaining to diversity, racism, drug and alcohol abuse, and academic performance. Worked with a staff of 20 other residential advisors while enforcing University policy.

BIOLOGY COMMUNITY ENGAGEMENT PRACTICUM **AUG. 2019 – DEC. 2019**

- A course designed to prepare advanced undergraduate biology majors to teach biology labs in Rochester City School District (RCSD) classrooms. True community engagement as I learned, prepped, and taught a DNA gel-electrophoresis lab to 5 different 9th grade biology classes.

RESEARCH ASST., MAJEWSKA LAB, UNIVERSITY OF ROCHESTER MEDICAL CENTER **DEC. 2018 – DEC. 2019**

- Topic of research: Synaptic Changes During Ocular Dominance Plasticity
- Project: Quantification of Synapse Density After Induction of Synaptic Plasticity in Transgenic Mice.
- Duties included animal husbandry, genotyping, intracardial perfusion, immunohistochemistry, epifluorescent and confocal imaging, and image analysis.

LAB TEACHING ASST., UNIVERSITY OF ROCHESTER DEPT. OF CHEMISTRY **AUG. 2018 – MAY 2019**

- Responsible for leading a weekly 3-hour inorganic chemistry lab of 30 undergraduate students and leading experiments while teaching students about various chemical instrumentation and techniques. Also responsible for grading lab reports, holding weekly office hours, and attending weekly lab meetings.

TECHNICAL ASST., THORNTON LAB, UNIVERSITY OF ROCHESTER MEDICAL CENTER **DEC. 2016 – JUL. 2017**

- Topic of research: Myotonic Muscle Dystrophy
- Duties included extracting DNA from mice, performing PCR evaluations, scanning gels, creating buffer solutions, autoclaving, washing dishes, and general help within the lab environment.

LAB ASST., GAMMA DIAGNOSTIC ENDOCRINOLOGY LAB, LUDHIANA, INDIA **JUN. 2014 – AUG. 2014**

- Observed scientists (100+ hours) and gained research experiences in another country, while having exposure to taking blood and routine pathological blood work tests.

LEADERSHIP EXPERIENCE

JOHNS HOPKINS CHILD HEALTH SOCIETY **SEPT. 2020 – MAY 2021**

- Member of student group within the Johns Hopkins Bloomberg School of Public Health whose aim to heighten awareness and promote advocacy and action within the school and local Baltimore community with regard to child and adolescent health through panels, seminars, research, and service engagement.

SCHOLARSHIP CHAIRMAN, ALPHA DELTA PHI FRATERNITY **MAR. 2017 – MAY 2020**

- Prestigious literary organization that emphasizes academics, personal growth, and community service. Responsible for setting academic regulations and ensuring a high level of intellectual achievement.
- Selected to be a member of the Order of Omega Leadership Honor Society based on high academic achievement, involvement in campus community, and dedication to improve life in the chapter.

VICE PRESIDENT, UNIVERSITY OF ROCHESTER CLASS OF 2020 CLASS COUNCIL **SEPT. 2016 – MAY 2020**

- Elected to be one of eight Class Council members to plan and execute events (with a \$60,000 budget) to promote class togetherness, diversity, and high academic achievement for the University of Rochester class of 2020. Held positions as Vice President, Senior Night Coordinator, and Programming Chair.

UNIVERSITY OF ROCHESTER CLUB TENNIS TEAM **AUG. 2016 – MAY 2020**

- Member of the club tennis team where the goal was to enhance all players' skills, play competitively, and have fun while fostering friendships. Participated in various tournaments against other undergraduate institutions.

EAGLE SCOUT, BOY SCOUTS OF AMERICA **JUN. 2004 – AUG. 2016**

- Achieved the highest rank in Scouting, Eagle Scout, in October of 2013. Only 4% of all Scouts reach this rank through years of hard work and dedication. Earned the Emergency Preparedness, First-Aid, Communication, and Personal Management merit badges among many others while serving as Junior Assistant Scoutmaster.